But What Approaches Do They Want?

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INTRODUCTION

This paper reports the progress of a research team currently investigating students' media preferences at the Open University of Hong Kong (OUHK). The overall aim was not to find out which medium was 'best', but which medium students preferred for specific study tasks, and what mixture of media would be most effective.

Such ideas and investigations are not new. 'Getting the mixture right' (Daniel and Marquis, 1972) refers to ensuring the right mix of interaction and independence for distance learning students. The project thus tried to determine how online learning can be integrated with existing modes of teaching (print-based, audio-visual, face-to-face) to ensure a mix of technologies that encourages appropriate amounts of interaction and independence and thus provides an optimal learning environment.

As access to online resources becomes as commonplace as access to a telephone (OUHK surveys reveal that such a time is close), online elements will become more closely integrated with other course materials and the overall study environment. This leads to the natural question of 'how much' of each mode is required in each course. A particular focus of the project consequently became the investigation of student attitudes to various forms and approaches of online education (Palloff and Pratt, 1999; Powers & Guan, 2000). Do they prefer independent activities (reading, searching, listening, watching, etc.) or do they look for opportunities for interaction (computer-mediated communication, interactive activities, etc.)? Further, which forms and approaches are better suited to which technology?

The importance of such work has been emphasized in the literature. For example, under the heading of 'Where is research needed', Meyer (2002, p. vii) adds a "plea for answers to the question about what mix of media (including, of course, face-to-face instruction) works best for which purpose." Further, in the search for the 'ideal online course', Carr-Chellman and Duchastel (2000) note that educators are often

relying on the availability of software, their own personal whims, existing institutional norms and other not-necessarily pedagogical factors to guide their development work. This project thus aimed to assist the OUHK, at both management and teaching level, to better plan and develop its online courses, by providing research evidence.

METHODOLOGY

The principal method used to gather data from the students was questionnaire survey. In preparing the questionnaire, though, semi-structured interviews were conducted with a small number of students in order to strengthen the validity of the questionnaire items developed through examination of other instruments (e.g. Kirkwood 2000a, 2000b) and the background knowledge of members of the research team. The interviews included questions about study habits, categorized under the broad headings of reading, writing, discussing/interacting, obtaining feedback, revising and searching.

The questionnaire underwent a series of reviews by team members, resulting in at least five distinct drafts before the final version was ready. The difficulty the team faced in preparing items was that the information that was sought could not be easily directly asked; rather, items had to be constructed that when combined would implicitly provide insight into the preferred combinations of technology. For example, the team was interested in whether students preferred interactive or independent learning activities, and it was believed that direct questions with respect to these concepts would not necessarily elicit valid responses.

INSTRUMENT

The questionnaire was a four-page bilingual (English and Chinese) instrument that consisted of four sections: 'study pattern', 'personal study preferences', 'media assessment' and 'open questions'.

Under 'study pattern', respondents were asked to state how often they used various study methods (e.g. highlight key points in printed text) and what they would do when they had questions (e.g. use chat board). 'Personal study preferences' presented a list of statements to which respondents used a 5-point Likert scale to indicate their level of agreement (from 'strongly disagree' to 'strongly agree'). Items included statements such as "I prefer online discussion to face-to-face discussion". 'Media assessment' presented a list of media for each of which respondents were asked to rate their effectiveness (again, a 5-point Likert scale) from 'very ineffective'

through to 'very effective'. Note that this list included items provided by the institution (e.g. online readings) and those external to the institution (e.g. personal study notes, general online resources).

The final open questions asked about technical issues with respect to the media used in courses, and asked for suggestions regarding improvement in the use of media at the OUHK. Demographic data was also sought.

SAMPLE

To maximize the response rate to the questionnaire, two sampling methods were used. The research group also took the opportunity to have both hard copy and online versions.

For the hard-copy version, students were approached as they entered the university to attend evening tutorials. The OUHK includes face-to-face tutorial sessions for almost all of its courses, and they are well-attended. A return, postage-paid envelope was included, and an incentive was provided in the form of a chance to receive a book token. In all, 975 questionnaires were handed out and 174 useable responses were received (response rate 17.7 per cent).

For the online version, a notice was put on the student intranet and in the 'News/notices' section of the OUHK Online Learning Environment. For this version, it is not particularly sensible to try to measure a response rate. The number of useable returns (the same book token incentive was offered) was 377, making a grand total of 551 for the combined sample methods.

RESULTS

The following tables present the basic data as compiled from valid questionnaire responses. They thus represent the initial presentation of results, which will be followed by more in-depth and complex analysis.

In the first section of the survey (see Table 1), our questions were aimed at painting a 'broad brush strokes' picture of OUHK students' study habits. Unsurprisingly, our students pay close attention to the texts they read, with large majorities engaging in intensive reading practices such as highlighting key points and making notes. A solid 65 per cent, however, take another step and digitize their notes at least occasionally. Another striking and perhaps discouraging note struck here is that very few OUHK students (just 24 per cent) record our educational television programmes. This may

reflect that fact that only a minority of OUHK courses incorporate such programmes, however.

Since a lack of human interaction (especially chances to ask questions and seek clarification) is a perennial distance education concern, we were also very interested in seeing where our students turn when they run into trouble. Unsurprisingly, over 80 per cent of students indicated they'd ask their tutors, classmates or course coordinators for help at least occasionally. Notably, our students were slightly *more* likely to ask such questions via email than via either telephone or face-to-face contact (they do have regular face to face tutorials). And given that not all OUHK courses include an online WebCT discussion board, it was also quite striking to learn that 65 per cent of our students do use this mode of communication. Finally, although our students overwhelmingly turn to their print-based course materials for answers, 91 per cent indicated they'd at least occasionally search the Internet as well.

Table 1: Study Patterns

1.	**Which of the following do you use when you study?**	**Never**	**Occasionally**	**Often**
	Highlight key points in printed text	27 (5%)	129 (23%)	393 (72%)
	Write your own notes in the printed materials	51 (9%)	254 (46%)	245 (45%)
	Prepare separate study notes in your own handwriting	79 (14%)	279 (51%)	191 (35%)
	Prepare study notes on computer files (e.g. MS Word)	191 (35%)	231 (42%)	126 (23%)
	Use voice recording during tutorials/ private study groups	414 (75%)	96 (18%)	39 (7%)
	Record OU television programmes	414 (75%)	111 (20%)	21 (4%)
	Take photos / video (e.g. on a field trip)	465 (85%)	58 (11%)	23 (4%)

2.	When you have questions, what do you usually do?	**Never**	**Occasionally**	**Often**
	Telephone your tutor /course coordinator /fellow students	135 (25%)	336 (61%)	79 (14%)
	Email your tutor /course coordinator /fellow students	85 (16%)	342 (62%)	121 (22%)
	Ask your tutors/course coordinators/ classmates face-to-face	117 (21%)	326 (60%)	104 (19%)
	Use instant messenger (e.g.ICQ / MSN / AOL messengers)	282 (52%)	193 (36%)	69 (13%)
	Post questions to the WebCT discussion board	194 (35%)	246 (45%)	108 (20%)
	Use chat board	406 (74%)	26 (23%)	16 (3%)
	Search the Internet	50 (9%)	193 (35%)	306 (56%)
	Search printed materials / text books	2 (0.4%)	117 (21%)	427 (78%)
	Search the OUHK Electronic Library	178 (33%)	265 (49%)	104 (19%)

The second section of the questionnaire dealt with personal study preferences (see Table 2). A high proportion of OUHK students said they like to study courses that integrated interactive forms of media (with only 11 per cent suggesting they don't) and that incorporate a wide range of media (only 7 per cent suggesting they don't). Never the less, a surprisingly large number of students (66 per cent indicating medium-to-strong agreement) said they prefer printed to online course material. This is no doubt related to their equally-strong propensity to print out online materials to read later. Our students also indicated a clear wish to receive more orientation and training in the use of media technologies, a factor that may be undercutting the effectiveness of such materials.

Our students' reaction to online discussions was an area of particular concern to our research team. Given our students' historical and continuing desire for more face to face contact, it was perhaps surprising that the results for the item stating 'I prefer online discussion to face-to-face discussion' were distributed so evenly: only slightly more students disagreed with the statement than agreed.

Another OUHK assumed belief – that most OUHK students have trouble with Chinese character inputting – was at least partially refuted by our results: only around 30 per cent of students indicated they had such problems.

Table 2: Personal Study Preferences

3. *How do you react to the following statements?*	Strongly Disagree 1	2	3	4	Strongly Agree 5
I like working with interactive materials such as CD-ROMs, online activities, etc.	14 (3%)	45 (8%)	158 (29%)	177 (32%)	156 (28%)
I would like more orientation / support given to demonstrate applications of media technologies.	13 (2%)	38 (7%)	145 (27%)	197 (36%)	155 (28%)
I like the courses that I study to use a wide range of media.	6 (1%)	30 (6%)	138 (25%)	185 (33%)	191 (35%)
The balance of media in my course is about right.	27 (5%)	118 (21%)	241 (44%)	129 (24%)	32 (6%)
I don't use the media as much as I would like to.	36 (7%)	106 (19%)	250 (45%)	121 (22%)	36 (7%)
I would prefer to receive audio / video materials.	31 (6%)	93 (17%)	164 (30%)	162 (30%)	96 (17%)
I prefer online discussion to face-to-face discussion.	76 (14%)	146 (27%)	171 (31%)	104 (19%)	51 (9%)
I print the online materials to read later.	13 (2%)	60 (11%)	106 (19%)	224 (41%)	144 (26%)
I prefer print-based materials to online materials.	19 (3%)	54 (10%)	117 (21%)	180 (33%)	178 (33%)
I feel that TMA assessment determines what actually gets studied.	28 (5%)	75 (14%)	161 (29%)	163 (30%)	122 (22%)
I have difficulty inputting Chinese text.	196 (36%)	87 (16%)	94 (17%)	63 (12%)	106 (19%)

The results in our section on discrete forms of course media (Table 3) provide fewer opportunities for drawing obvious conclusions. That is, the reactions to a number of individual media were quite broadly distributed, assuming almost classic bell-shaped curves (see the results below for CD-ROMs and the OUHK Electronic Library for examples). This perhaps reflects the simple fact that any group of students exhibits a range of learning styles and preferences.

Never the less, a number of results do stand out. OUHK printed study units and face-to-face tutorials did very well, with very few students (just seven per cent and five per cent, respectively) indicating they found these media ineffective. Online course materials and discussions did slightly less well, although more students found them effective than ineffective. 'Older' media such as television and video programmes, and audio tapes/CDs were not rated highly, however.

We also asked students to rate the effectiveness of several forms of media not provided by the OUHK. The most notable result here, perhaps, was that so few students found their own study notes effective – just 50 per cent indicated medium-to-strong agreement. Student-organized study groups also received mixed ratings at best.

Table 3: Media Assessment

4. How would you rate the effectiveness of the following for your study:
(If you have not used any of the items, please leave them blank.)

Media provided / recommended by OUHK:	**Highly Ineffective 1**	**2**	**3**	**4**	**Highly Effective 5**
Printed study units	6 (1%)	34 (6%)	156 (29%)	222 (41%)	124 (23%)
Printed readings	6 (1%)	53 (10%)	187 (35%)	205 (38%)	89 (16%)
Textbooks	7 (1%)	44 (8%)	159 (29%)	245 (45%)	88 (16%)
Online study units	19 (4%)	60 (12%)	193 (39%)	162 (33%)	65 (13%)
Online readings	18 (4%)	65 (13%)	221 (45%)	141 (28%)	51 (10%)
OUHK Library (Physical collections)	21 (4%)	93 (18%)	217 (43%)	129 (25%)	51 (10%)
OUHK Electronic Library	30 (6%)	119 (24%)	203 (40%)	113 (22%)	42 (8%)
OUHK Television Programmes	61 (12%)	150 (30%)	189 (38%)	72 (15%)	24 (5%)
Video Tapes	59 (13%)	134 (29%)	177 (38%)	68 (15%)	26 (6%)
CD-Rom	33 (7%)	91 (19%)	179 (38%)	131 (28%)	42 (8%)
Audio Tapes	60 (12%)	151 (32%)	159 (34%)	79 (17%)	26 (5%)
Face-to-face Tutorials	5 (1%)	19 (4%)	85 (16%)	239 (45%)	188 (35%)
Course Software	22 (5%)	50 (10%)	185 (39%)	155 (32%)	65 (14%)
Course Website	14 (3%)	49 (10%)	160 (32%)	193 (38%)	89 (17%)
Online Discussion Board (OLE/COLE)	25 (5%)	67 (13%)	148 (29%)	169 (33%)	105 (20%)
Online Course News	15 (3%)	55 (11%)	172 (33%)	168 (33%)	100 (20%)
Online Chat Board	59 (12%)	140 (29%)	182 (38%)	75 (16%)	25 (5%)
Online White Board	40 (8%)	89 (19%)	184 (39%)	116 (25%)	45 (10%)
Teleconferencing / Video Chat	67 (16%)	109 (26%)	179 (43%)	45 (10%)	16 (4%)

Media not provided by OUHK:					
Private study groups	31 (7%)	100 (21%)	195 (42%)	96 (20%)	48 (10%)
Libraries of other institutions	35 (8%)	77 (17%)	197 (43%)	99 (21%)	55 (12%)
Online libraries of other institutions	37 (8%)	87 (19%)	201 (44%)	94 (21%)	38 (8%)
Material located by online searching	14 (3%)	55 (11%)	191 (39%)	150 (31%)	75 (16%)
Your own study notes	6 (1%)	43 (9%)	194 (40%)	162 (33%)	81 (17%)

DISCUSSION AND CONCLUSION

The results as presented here are the first steps in the analysis of the data. They provide an overall view of the student responses to items that seek to understand how they use various form of technology in their study by distance education. In general the results contained little that was surprising to the team, for the most part confirming previous research outcomes or commonly held beliefs. The fact that OUHK students show a strong preference for face-to-face tutorial is one such conclusion.

Other results were somewhat unexpected, and have added to the store of knowledge with respect to how OUHK students approach their study, particularly when using various forms of technology. An example, mentioned earlier, is the extent to which the students use the internet when they have questions. Ninety one per cent indicated that they would either occasionally or often search the internet, an activity only marginally behind searching the course material. Of particular relevance to those considering putting their distance education materials online is the clear preference that students showed for print-based materials. This further tallies with the high proportion of students indicating that they print online materials for later reading, along with the high rating that they gave printed materials in terms of effectiveness. The team was also a little surprised that only 50 per cent of students rated their own study notes as effective.

There is still much to be done and explored with respect to the data. One issue being pursued is whether the two groups of students differ in their responses. Preliminary perusal indicates that there is little difference, but this has yet to be checked statistically.

More importantly, the team is interested in deeper analysis of the media assessment items (Table 3). Specifically, can we group the items with respect to whether they are associated with independent or interactive activities? For example, printed study materials are associated with independent study, while an online discussion board is interactive. What patterns would then be revealed about student preferences? Do some show an overall propensity towards interactive study? An alternative though similar grouping is to identify the items as belonging to either synchronous or asynchronous study activity. For example, online study units are asynchronous while a chat board is synchronous.

The team thus expects to extract further meaning and understanding that can be put to good use in advancing the use of technology in teaching and learning at the OUHK. Specific recommendations will await such further investigation. It is a complex but necessary area of research if we are to provide effective learning environments for our students.

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